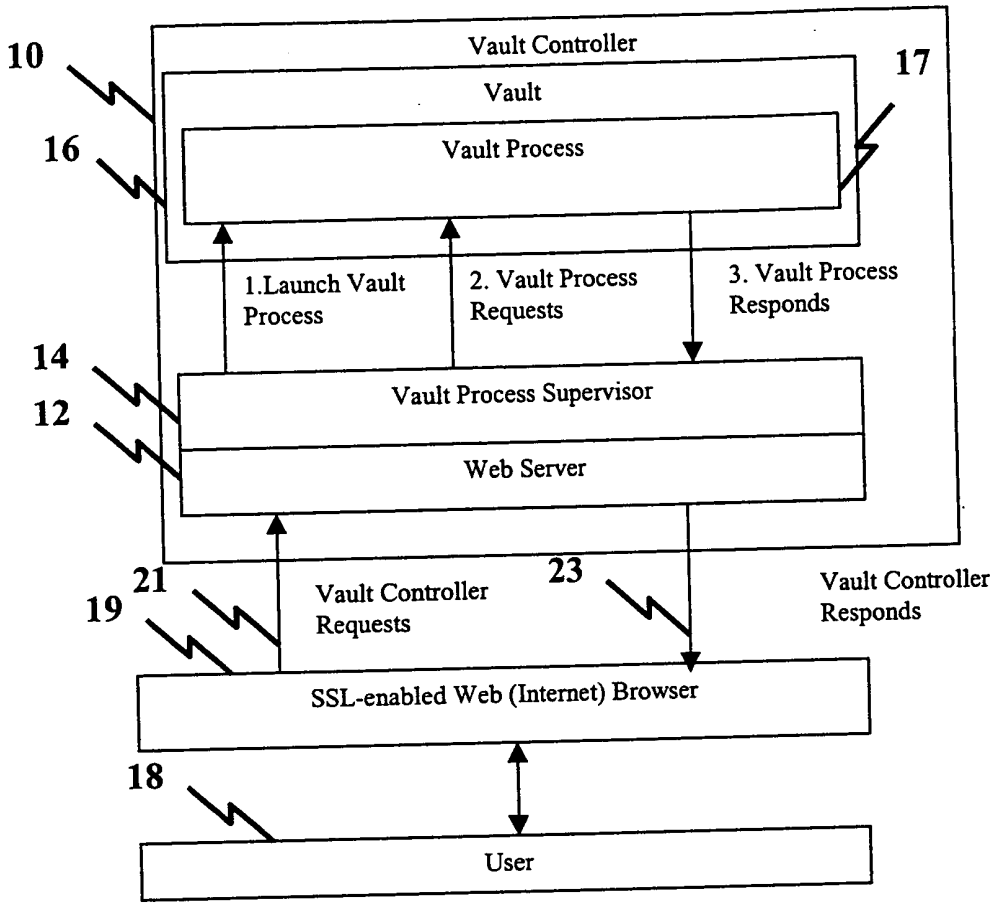

Figure 1

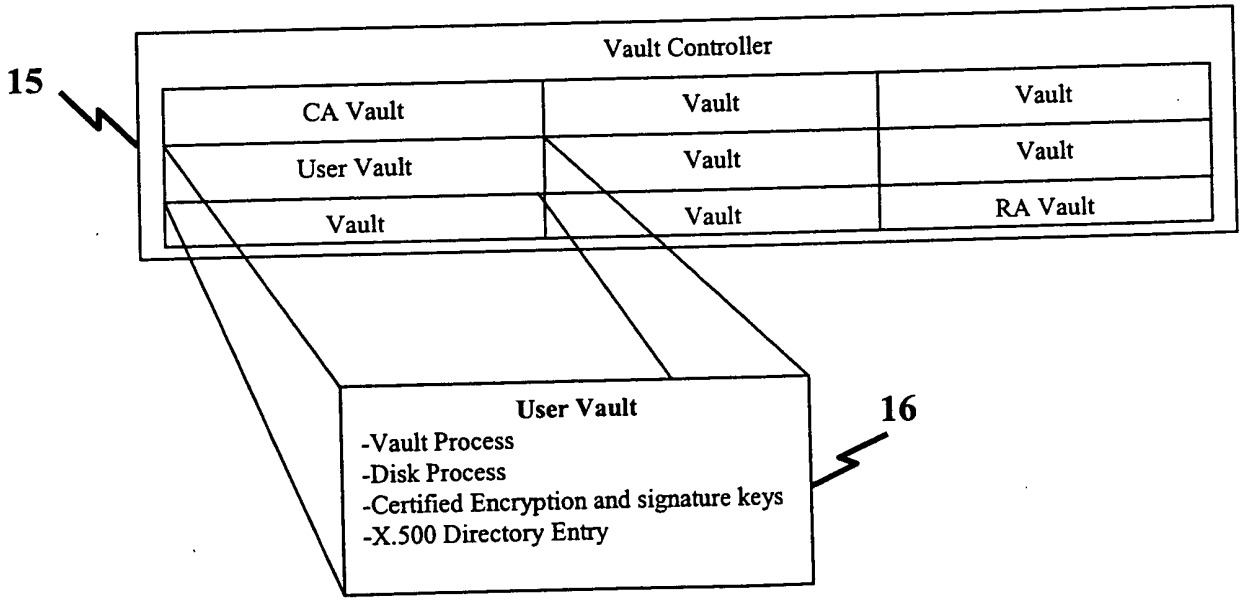

Figure 2

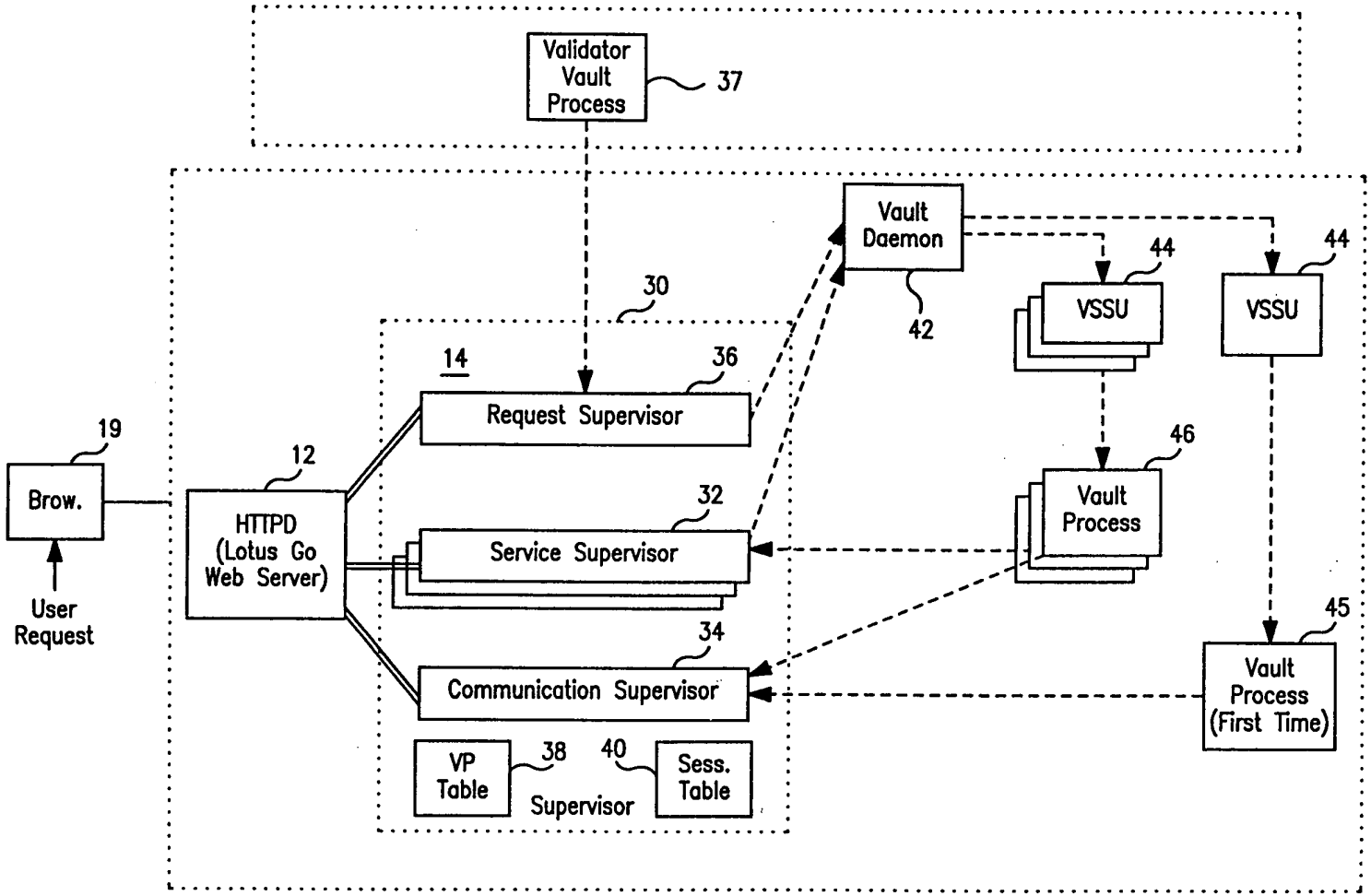
Validator Vault Process
37
Vault Daemon
42
44
VSSU
44
VSSU
30
14
36
Request Supervisor
19
Brow.
12
HTTPD (Lotus Go Web Server)
32
Service Supervisor
46
Vault Process
User Request
34
Communication Supervisor
45
Vault Process (First Time)
VP Table
38
40
Sess. Table
Supervisor

FIG. 3

User ID	Token	VP Validator Flag	Process ID	VP Start Flag	Socket Descriptor
aaA51	9999999999	False	32436	True	3
aaA7	8888888888	True	46352	True	4
aaA7F	7777777777	False	37463	False	5

38

Vault Process Table

Figure 3A

40

VP	Session ID	User Name	Certificate	KRO Flag
VP1	nWUQkossP4z+xCPC14MxhpDhSGdyDK3UzjF73ckVuOQ=	aaA51	MDCajCCAhOgAwIBAgIENb5ScjAN . . .	False
VP2	TA/KIDU8XLZ6FbEnv/KIPpJ+YbDDFzAg22cvTPB2LPQ=	aaA7		False
VP3	m8/uijRW24TVPqfig/yNfRWIONR4VL6RccBeSh+7m21=	aaA45	vhiCrTCCAhagAwIBAglENb5SXDANB . . .	True
VP4				
VPn				

Session Table

Figure 3B

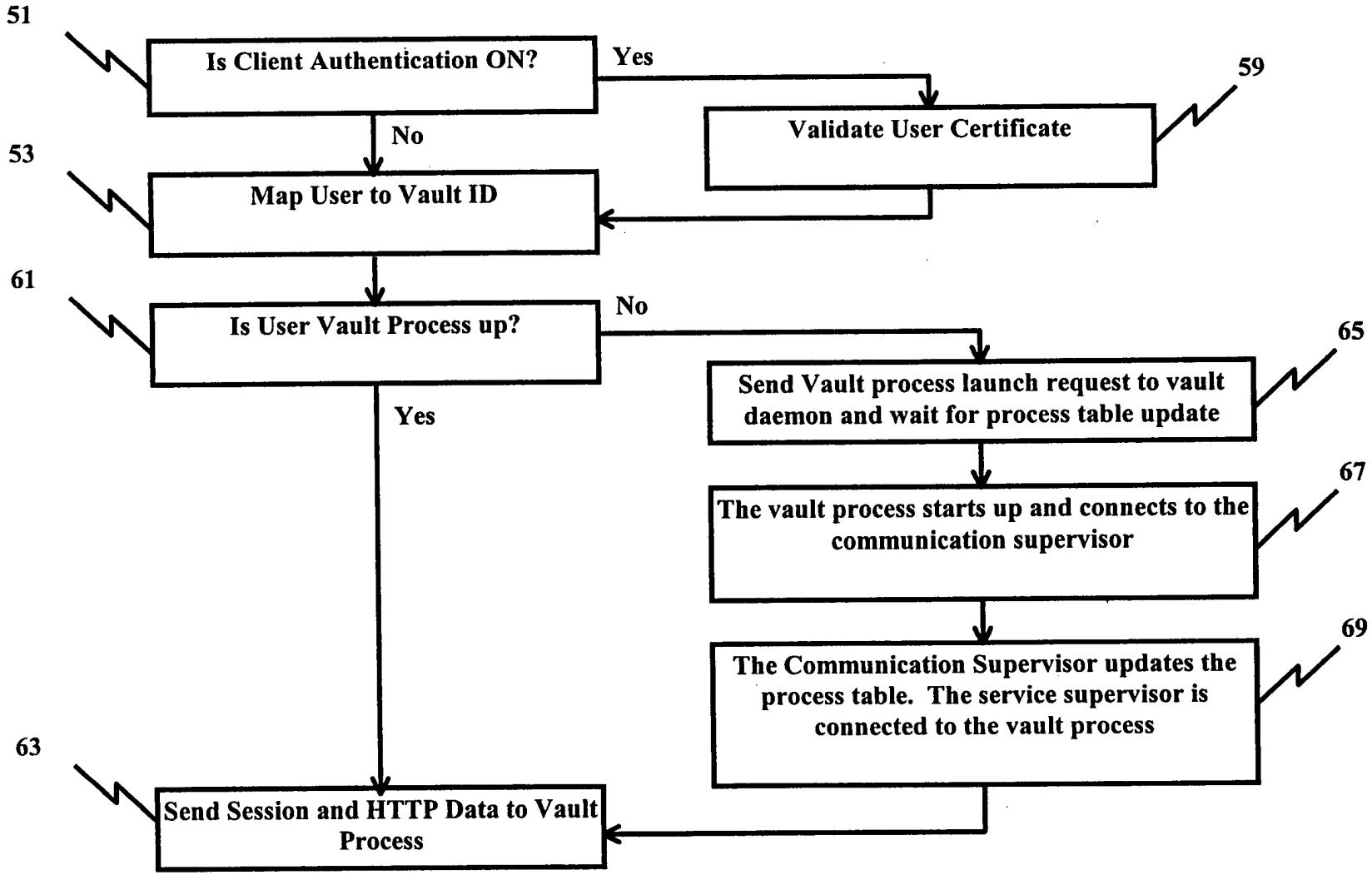
51
Is Client Authentication ON?
Yes
59
Validate User Certificate
No
53
Map User to Vault ID
61
Is User Vault Process up?
No
65
Send Vault process launch request to vault daemon and wait for process table update
Yes
67
The vault process starts up and connects to the communication supervisor
69
The Communication Supervisor updates the process table. The service supervisor is connected to the vault process
63
Send Session and HTTP Data to Vault Process

Figure 4

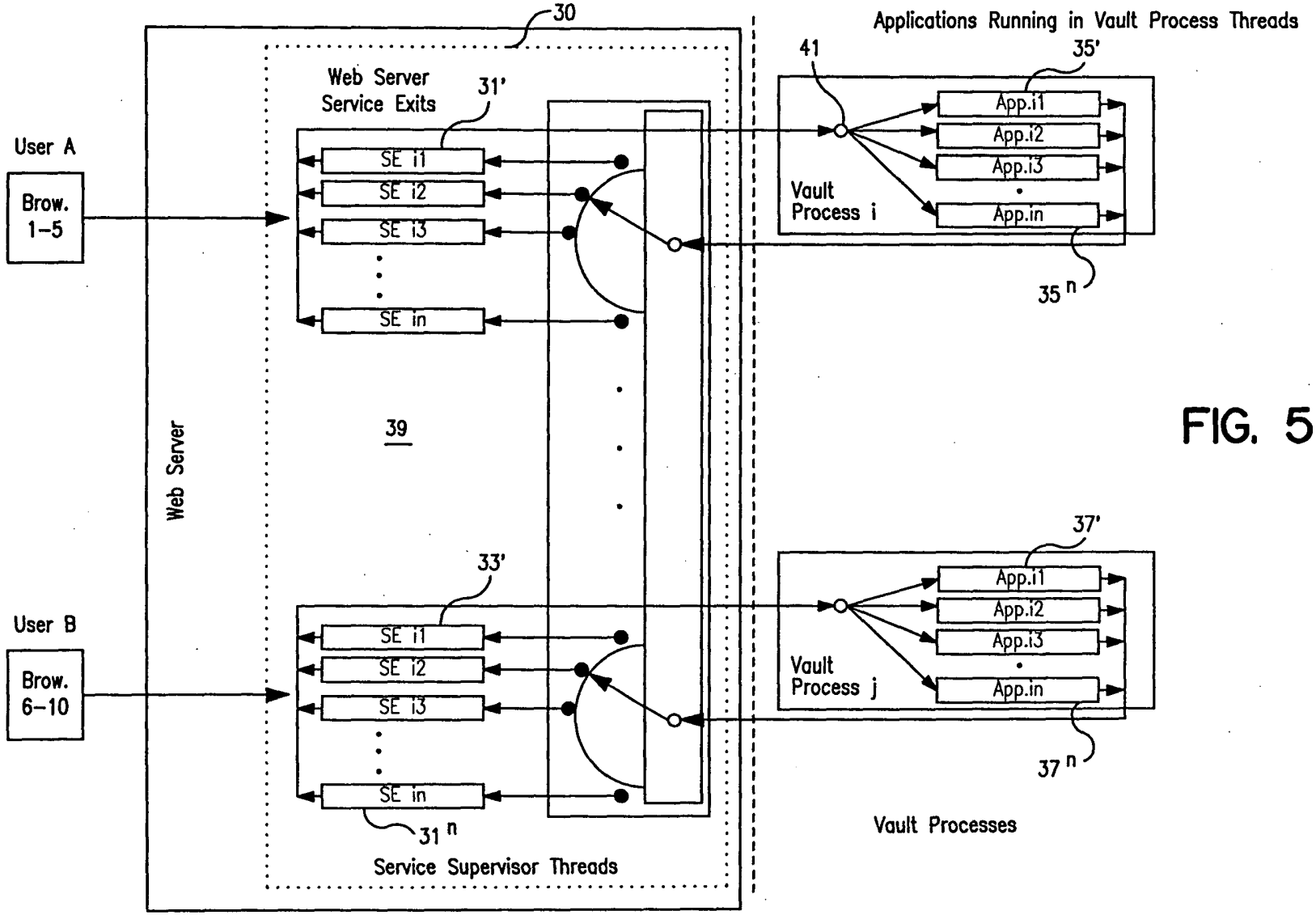
30
Web Server
Service Exits
31'
SE i1
SE i2
SE i3
SE in
User A
Brow.
1-5
39
Web Server
User B
Brow.
6-10
33'
SE i1
SE i2
SE i3
SE in
31 n
Service Supervisor Threads
Applications Running in Vault Process Threads
41
35'
App.i1
App.i2
App.i3
App.in
Vault
Process i
35 n
37'
App.i1
App.i2
App.i3
App.in
Vault
Process j
37 n
Vault Processes

FIG. 5

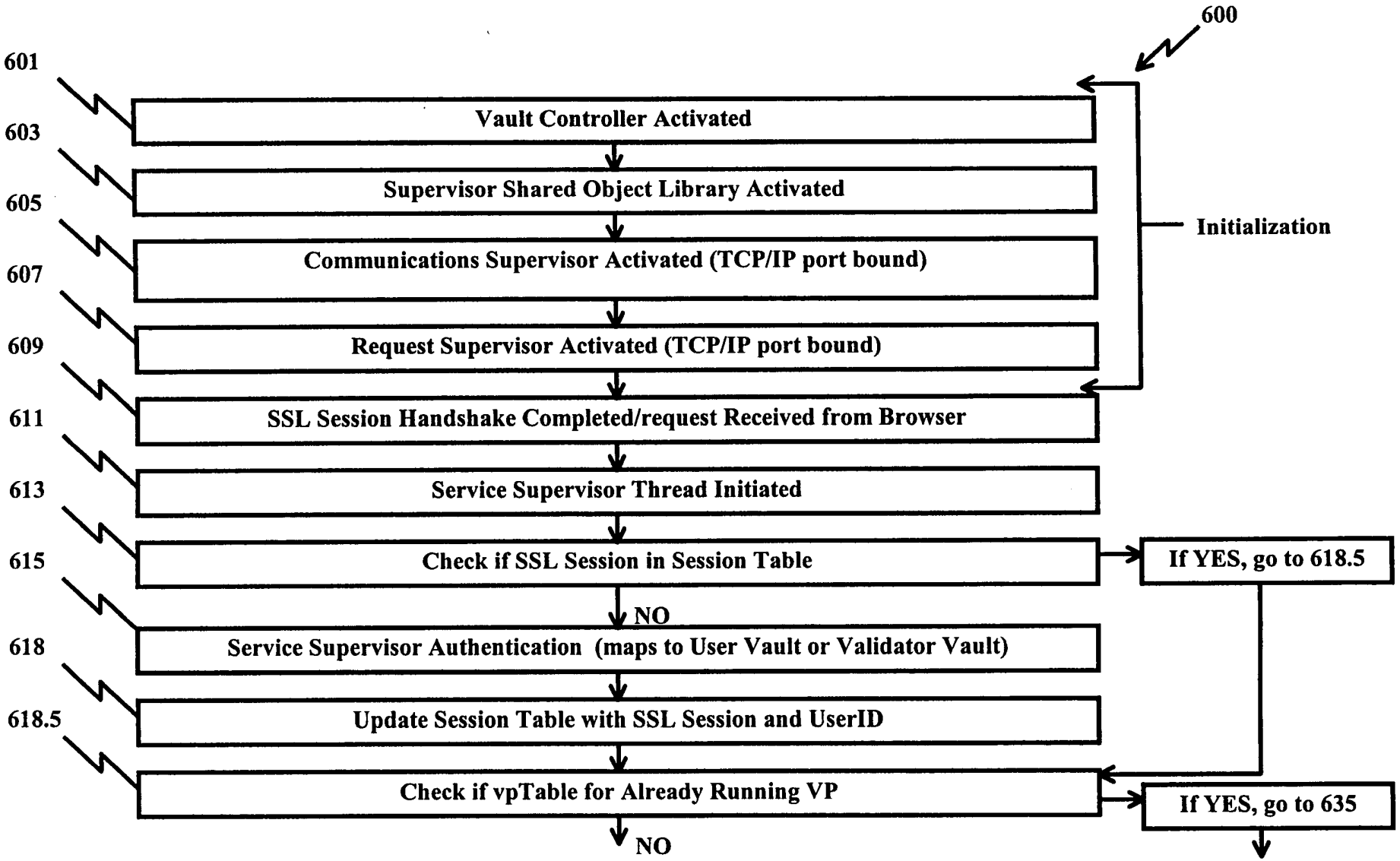
600
601
Vault Controller Activated
603
Supervisor Shared Object Library Activated
605
Communications Supervisor Activated (TCP/IP port bound)
607
Request Supervisor Activated (TCP/IP port bound)
609
SSL Session Handshake Completed/request Received from Browser
611
Service Supervisor Thread Initiated
613
Check if SSL Session in Session Table
615
If YES, go to 618.5
NO
Service Supervisor Authentication (maps to User Vault or Validator Vault)
618
Update Session Table with SSL Session and UserID
618.5
Check if vpTable for Already Running VP
If YES, go to 635
NO
Initialization
Cont. on Figure 6B

Figure 6A

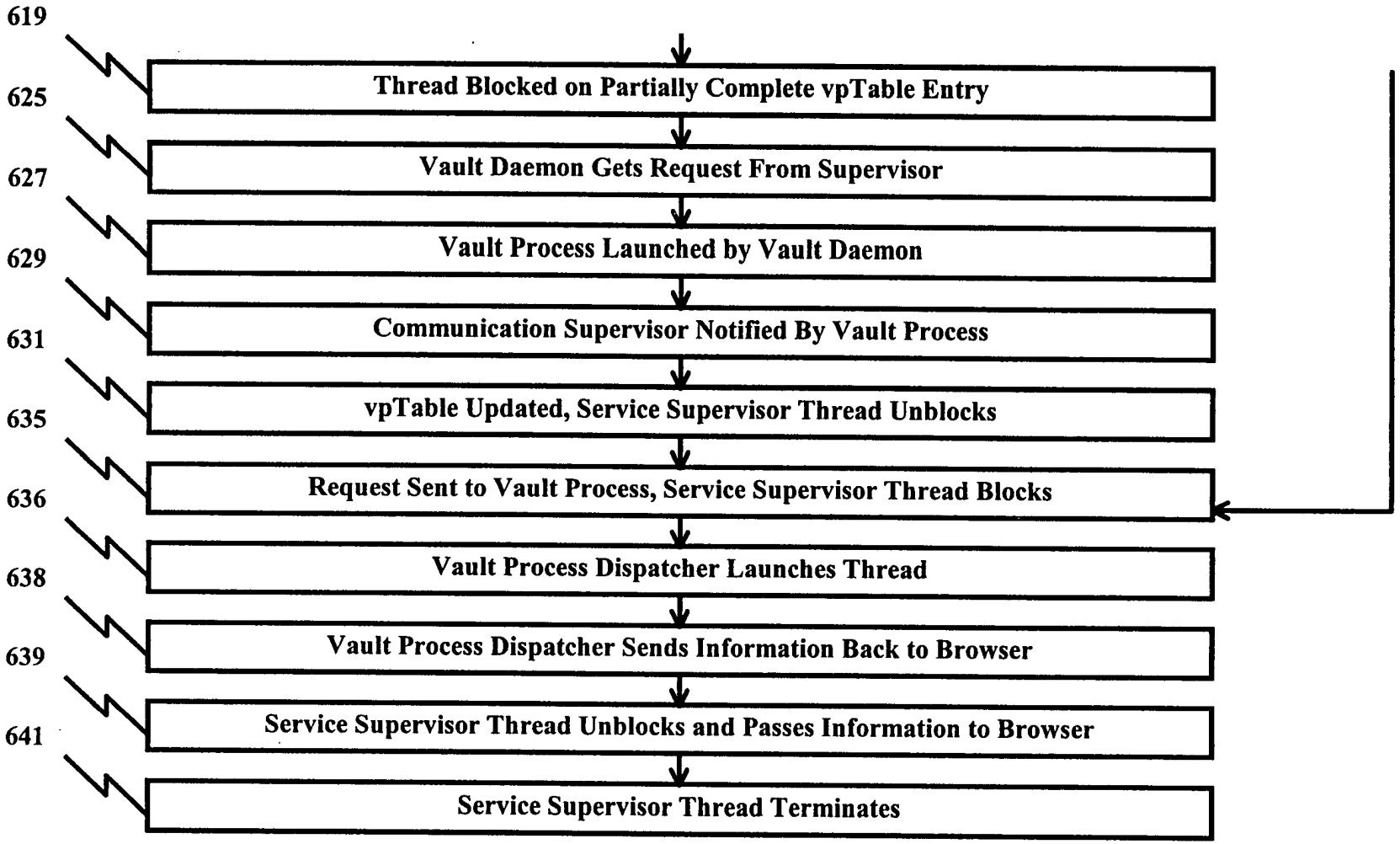
619
625
Thread Blocked on Partially Complete vpTable Entry
627
Vault Daemon Gets Request From Supervisor
629
Vault Process Launched by Vault Daemon
631
Communication Supervisor Notified By Vault Process
635
vpTable Updated, Service Supervisor Thread Unblocks
636
Request Sent to Vault Process, Service Supervisor Thread Blocks
638
Vault Process Dispatcher Launches Thread
639
Vault Process Dispatcher Sends Information Back to Browser
641
Service Supervisor Thread Unblocks and Passes Information to Browser
Service Supervisor Thread Terminates

Figure 6B